

FCC ID:2BMNA-Q4
Portable device

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to KDB447498 D01 General RF Exposure Guidance V06

The 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

BT(Phone):

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	1.32	1.36	1±1	2.00	1.58	<5	0.49127	3.00	YES
	2.441	1.74	1.49	1±1	2.00	1.58	<5	0.49524	3.00	YES
	2.480	1.65	1.46	1±1	2.00	1.58	<5	0.49918	3.00	YES
Pi/4 DQPSK	2.402	2.56	1.80	2±1	3.00	2.00	<5	0.61847	3.00	YES
	2.441	3.28	2.13	3±1	4.00	2.51	<5	0.78490	3.00	YES
	2.480	3.31	2.14	3±1	4.00	2.51	<5	0.79114	3.00	YES
8DPSK	2.402	2.97	1.98	2±1	2.00	1.58	<5	0.49127	3.00	YES
	2.441	3.62	2.30	3±1	4.00	2.51	<5	0.78490	3.00	YES
	2.480	3.57	2.28	3±1	4.00	2.51	<5	0.79114	3.00	YES

BLE(Phone):

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	SAR Exclusion threshold	SAR test exclusion
GFSK 1Mbps	2.402	-12.51	0.06	-13±1	-12.00	0.06	<5	0.01956	3.00	YES
	2.44	-12.09	0.06	-13±1	-12.00	0.06	<5	0.01971	3.00	YES
	2.480	-12.52	0.06	-13±1	-12.00	0.06	<5	0.01987	3.00	YES
GFSK 2Mbps	2.402	-12.47	0.06	-13±1	-12.00	0.06	<5	0.01956	3.00	YES
	2.44	-12.17	0.06	-13±1	-12.00	0.06	<5	0.01971	3.00	YES
	2.480	-12.65	0.05	-13±1	-12.00	0.06	<5	0.01987	3.00	YES

BT(Intercom):

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	SAR Exclusion threshold	SAR test exclusion
GFSK	2.402	-0.69	0.85	-1±1	0.00	1.00	<5	0.30997	3.00	YES
	2.441	-0.84	0.82	-1±1	0.00	1.00	<5	0.31247	3.00	YES
	2.480	-0.65	0.86	-1±1	0.00	1.00	<5	0.31496	3.00	YES
Pi/4 DQPSK	2.402	0.72	1.18	0±1	1.00	1.26	<5	0.39023	3.00	YES
	2.441	0.57	1.14	0±1	1.00	1.26	<5	0.39338	3.00	YES
	2.480	0.84	1.21	0±1	1.00	1.26	<5	0.39651	3.00	YES
8DPSK	2.402	1.01	1.26	1±1	2.00	1.58	<5	0.49127	3.00	YES
	2.441	0.82	1.21	0±1	1.00	1.26	<5	0.39338	3.00	YES
	2.480	1.13	1.30	1±1	2.00	1.58	<5	0.49918	3.00	YES

BLE(Intercom):

Modulation	Channel Freq. (GHz)	Conduct ed power (dBm)	Conducte d power (mW)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Distance (mm)	Result calculatio n	SAR Exclusion threshold	SAR test exclusion
GFSK 1Mbps	2.402	-10.65	0.09	-11±1	-10.00	0.10	<5	0.03100	3.00	YES
	2.44	-11.16	0.08	-12±1	-11.00	0.08	<5	0.02482	3.00	YES
	2.480	-11.30	0.07	-12±1	-11.00	0.08	<5	0.02502	3.00	YES
GFSK 2Mbps	2.402	-10.64	0.09	-11±1	-10.00	0.10	<5	0.03100	3.00	YES
	2.44	-11.15	0.08	-12±1	-11.00	0.08	<5	0.02482	3.00	YES
	2.480	-11.30	0.07	-12±1	-11.00	0.08	<5	0.02502	3.00	YES

For the Max simultaneous transmission:

Simultaneous transmitting = $0.79114/3 + 0.49918/3 = 0.43011 \leq 1.0$

Conclusion:

For the max result : Max simultaneous transmission $0.43011 \leq$ FCC Limit 1.0 for 1g SAR, Maximum emission for a single function $0.79114 \leq$ FCC Limit 3.0 for 1g SAR